



NASA Policy Directive

NPD 1080.1AEffective Date: September 30, 2003
Expiration Date: September 30, 2008**COMPLIANCE IS MANDATORY**[Printable Format \(PDF\)](#)

Subject: NASA Science Policy

Responsible Office: Science Mission Directorate

1. Policy

a. Purpose:

This NASA Policy Directive (NPD) establishes the policy and responsibilities for the conduct of NASA's Scientific Research (SR) programs. This policy is meant to be flexible, adaptable, and conformable to the many types of SR programs and related activities that NASA conducts and manages.

b. Definition:

NASA's SR programs include flight and ground research and analysis programs encompassing the traditional space-related disciplines, such as astrophysics, planetary science, heliospheric science, Earth science, space medicine, and biological and physical sciences. NASA's research programs in education are also included. Basic aeronautics research is addressed in NASA's Program and Project Management Policy due to its close coupling with technology development and application.

c. Relevance:

As mandated in the National Aeronautics and Space Act of 1958, as amended, two of NASA's objectives are the expansion of human knowledge and the establishment of long-range studies of aeronautic and space activities for peaceful and scientific purposes. The 2006 NASA Strategic Plan is, therefore, driven by science; the Agency's Research and Analysis Programs and other basic research activities must be directly aligned with the 2006 NASA Strategic Plan.

d. Policy:

(1) Plan and Prioritize: NASA's focus in research selection, mission, and program planning, is on excellence. The Agency will achieve excellence by selecting the best ideas to be carried out by the most capable people, thereby providing the American public the greatest return on its investment in NASA programs. Additionally, NASA's role as a Research and Development (R&D) Agency requires a high-quality internal R&D capability and knowledgeable civil service personnel working at the forefront of scientific research (National Research Council, 1995). Civil service researchers must compete with the external community for science research funding, as detailed in section 2 below. Mission and program planning shall be consistent with the 2006 NASA Strategic Plan and with the Administration's stated priorities, and shall be coordinated among the Enterprises and appropriate Officials-in-Charge, with other Federal agencies as appropriate, and with the broad science community. NASA research programs shall be evaluated by external panels every 3 to 5 years to ensure progress in the discipline, as well as continuing quality, relevance, and performance. NASA flight programs shall be conducted in accordance with the guidelines of NPR 7120.5, NASA Program and Project Management Processes and Requirements.

(2) Solicit, Review, and Select Research Proposals: NASA solicits proposals for basic research investigations using a variety of Broad Agency Announcements (BAA). Specific guidelines for the scope and review process for BAAs are detailed in NPR 5800.1E, Grant and Cooperative Agreement Handbook, and the NASA Federal Acquisition Regulation (FAR) supplements, NFS 1872 and NFS 1835.016-71. Every unsolicited research proposal received shall be evaluated for relevance to NASA's mission according to guidelines specified in FAR Subpart 15.6 and NFS 48 CFR, Subpart 1815.6. Relevant unsolicited proposals and proposals in response to a NASA solicitation shall then be reviewed by expert reviewers for intrinsic scientific and technical merit, cost, feasibility, and outreach activities. Research involving human or animal subjects shall undergo appropriate independent review for safety and bioethical considerations, as outlined in NPD 7100.8D, Protection of Human Research Subjects, and NPD 8910.1A, Care and Use of Animals.

While the processes for solicitation may vary depending on individual program requirements, open competition and peer review (the technical review of the proposal by unbiased members of the relevant scientific community) shall be the default mechanisms generally employed. Other factors, such as cost, programmatic balance, and responsiveness to national priorities, may be factors in selection decisions. The solicitation, review, and selection processes used in various parts of the Agency shall be documented and assessed periodically for fairness, appropriateness, efficiency, and effectiveness. Research missions and guidelines must be clearly stated in solicitations. It is then the Principal Investigator's responsibility to ensure that proposals are relevant to the missions and guidelines. Research program managers and scientists shall make selection decisions on the most scientifically excellent proposals that meet the previously stated criteria.

(3) Conduct Research: Execution of research activities is the responsibility of selected performers under the oversight of Headquarters Enterprise and Center management as referenced in NPD 1000.0, NASA Strategic Management and Governance Handbook. All NASA research programs shall be conducted in compliance with the Federal Policy on Research Misconduct, as promulgated by the Office of Science and Technology Policy.

(4) Form Partnerships: NASA is committed to the support of university research and the participation of university scientists, engineers, technologists, and students in NASA's research programs. The participation of industry and other Government agencies is also important, and teaming among universities, NASA Centers, other Government agencies, industrial firms, and nonprofit organizations is encouraged. NASA shall utilize industry and other Agency capabilities where appropriate to avoid redundancy.

(5) Conduct International Collaborations: International coordination and the mutually beneficial conduct of international programs, projects, and activities are encouraged when such participation is consistent with NASA's mission and has significant technical, scientific, economic, or foreign policy benefits for NASA or the United States. Arrangements for cooperative international projects must be in compliance with applicable U.S. laws, regulations, or policies, including export control laws and regulations. In addition, arrangements for cooperative international projects shall take into consideration NASA's fiduciary responsibility to ensure adequate technical insight to maximize the probability of mission success. NASA shall lead where appropriate, but will also join partnerships led by other countries and those partnerships in which leadership is shared. NASA will follow the policy set forth in NPD 1360.2, Initiation and Development of International Cooperation in Space and Aeronautics Programs, in conducting international collaborations.

(6) Evaluate Quality and Measure Performance of Research: NASA is committed to establishing, maintaining, and measuring quality based on informed judgments, multiple lines of evidence, and views from both the participants in and beneficiaries of NASA research. Assessments of the quality, effectiveness, and impact of NASA research missions and programs shall be made on a regular basis through all stages of a research activity. When possible, the assessments shall be based on measurable, including quantitative, criteria; it is recognized, however, that quantification is sometimes not possible for basic research (see section 7. below). Mechanisms to ensure the appropriate integration of performance with budget shall be employed.

(7) Duty to the Public, Data Availability, Outreach, and Education: Within the limitations of its budget, NASA strives to support the scientific and technical investigations it has selected and to sponsor the full range of data analysis, theoretical, and laboratory investigations required to derive scientific, technical, and other broad benefits from public investments in NASA's research programs and missions. It is, therefore, NASA's policy that unclassified scientific data and other results from NASA science programs and missions that are not subject to export control and intellectual property agreements shall be made publicly available in usable form.

NASA shall support K-12, undergraduate, graduate, and postgraduate education to meet the country's future needs for scientists and engineers, and shall promote the involvement of underrepresented groups (including minorities, women, and individuals with disabilities) in research programs and missions. NASA's programs shall also address U.S. economic benefits and global competitiveness, as well as the broad social need for improved science education and an improved public understanding of science and technology.

2. Applicability

This NPD is applicable to NASA Headquarters and NASA Centers, including Component Facilities, and to the Jet Propulsion Laboratory to the extent specified in the contract.

3. Authority

42 U.S.C. 2473 (c) (I), Section 203 (c) (I) of the National Aeronautics and Space Act of 1958, as amended.

4. References

- a. NPD 1001.0, 2006 NASA Strategic Plan.
- b. NPD 1000.0, NASA Strategic Management and Governance Handbook.

- c. NPD 1360.2, Initiation and Development of International Cooperation in Space and Aeronautics Programs.
- d. NPD 2200.1, Management of NASA Scientific and Technical Information (STI).
- e. NPR 2200.2, Guidelines for Documentation, Approval, and Dissemination of NASA Scientific and Technical Information (STI).
- f. NPR 5800.1, Grant and Cooperative Agreement Handbook.
- g. NPD 7100.8, Protection of Human Research Subjects.
- h. NPR 7100.1, Protection of Human Research Subjects.
- i. NPR 7120.5, NASA Program and Project Management Processes and Requirements.
- j. NPD 8910.1, Care and Use of Animals.
- k. NPR 8910.1, Care and Use of Animals.
- l. NASA Science Council, "Science in Air and Space: NASA's Science Policy Guide," July 1996.
- m. National Research Council, "Managing the Space Sciences," National Academy Press, 1995 (<http://www.nap.edu/catalog/9297.html>).
- n. Federal Register / Vol. 65, No. 235, December 6, 2000, Federal Policy on Research Misconduct.
- o. 14 CFR, Part 1275, "Investigation of Research Misconduct," DRAFT, May 2003.
- p. 31 U.S.C. 1101-1119, 9703-9704, the Government Performance and Results Act (GPRA) of 1993, as amended.
- q. NSTC-8 (National Science and Technology Council), National Space Policy, September 19, 1996, Executive Office of the President, Office of Science and Technology Policy.
- r. National Research Council, "Implementing the Government Performance and Results Act for Research," National Academy Press, 2001.
- s. National Research Council, "Evaluating Federal Research Programs," National Academy Press, 1999.
- t. NASA Federal Acquisition Regulation (FAR) Supplement (NFS), Part 1872, "Acquisitions of Investigations," May 2002.
- u. NASA Federal Acquisition Regulation (FAR) Supplement (NFS), Part 1835.016-71, "NASA Research Announcements," April 2003.
- v. Federal Acquisition Regulation (FAR), Part 15.6, "Unsolicited Proposals," August 2003.

5. Responsibility

The responsibility for implementing NASA's science policy spans throughout the management chain: from the Administrator, Deputy Administrator, Chief Scientist, Associate Administrators, Center Directors, other line management officials, science program managers, project scientists, and individual research scientists. The NASA Chief Scientist is responsible for defining the NASA Science Policy, together with the Associate Administrators for science organizations, and for maintaining Agency-level metrics regarding the quality of NASA's scientific programs. The Associate Administrators are responsible for implementing the policy in their respective Enterprises. The Center Directors are responsible for implementing the policy in their respective Centers. The NASA Science Council (NSC), under the leadership of the Chief Scientist, provides advice and recommendations for consideration by the Administrator concerning all aspects of science related to NASA's space flight and ground programs. The NSC serves as a forum for establishing and reviewing Agency science policy, plays a key role in the process of developing Agency science priorities, and provides high-level oversight and direction to the Agency's Centers and Enterprises concerning the conduct and management of NASA's SR programs. Advisory committees and other external groups composed of independent stakeholders are also important to the formulation and oversight of NASA's research programs to ensure that programs represent the highest quality science in the national interest. NASA seeks external advice from a diverse range of institutions representing a variety of perspectives and backgrounds.

6. Delegation of Authority

None.

7. Measurements

Many different mechanisms are available for assessing and ensuring quality. Each of these mechanisms can play a

significant role at some stage in the decisionmaking and evaluation processes. The Chief Scientist and the NSC shall periodically review and make recommendations on the metrics that are used by the Enterprises for inclusion in the Agency's budgetary, performance planning, and review documents and for other evaluative purposes.

8. Cancellation

NPD 1080.1, NASA Generate Knowledge (GK) Process for Programs and Projects, dated August 26, 1999.

/s/ Sean O'Keefe
Administrator

Attachment A: (Text)

None.

(URL for Graphic)

None.

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